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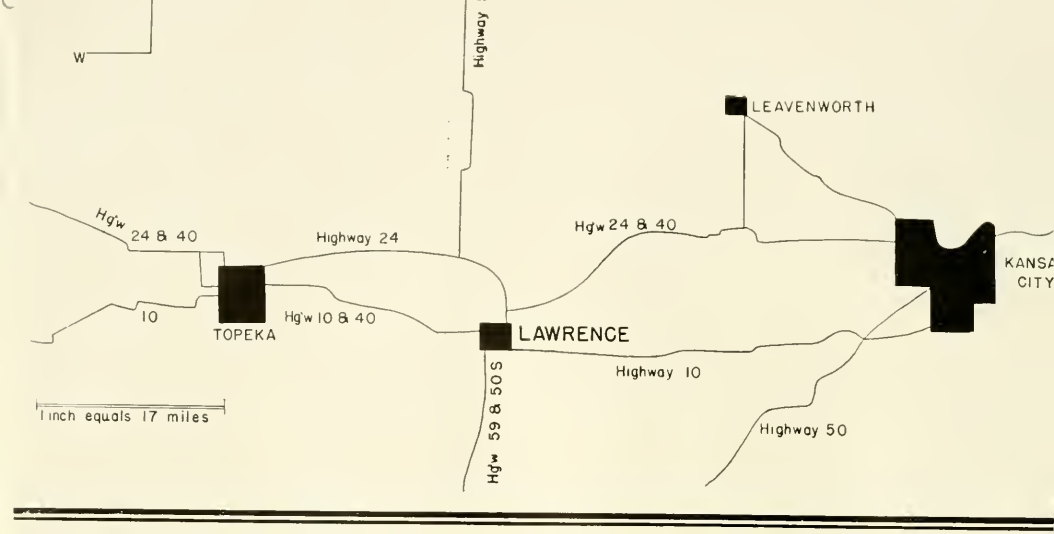
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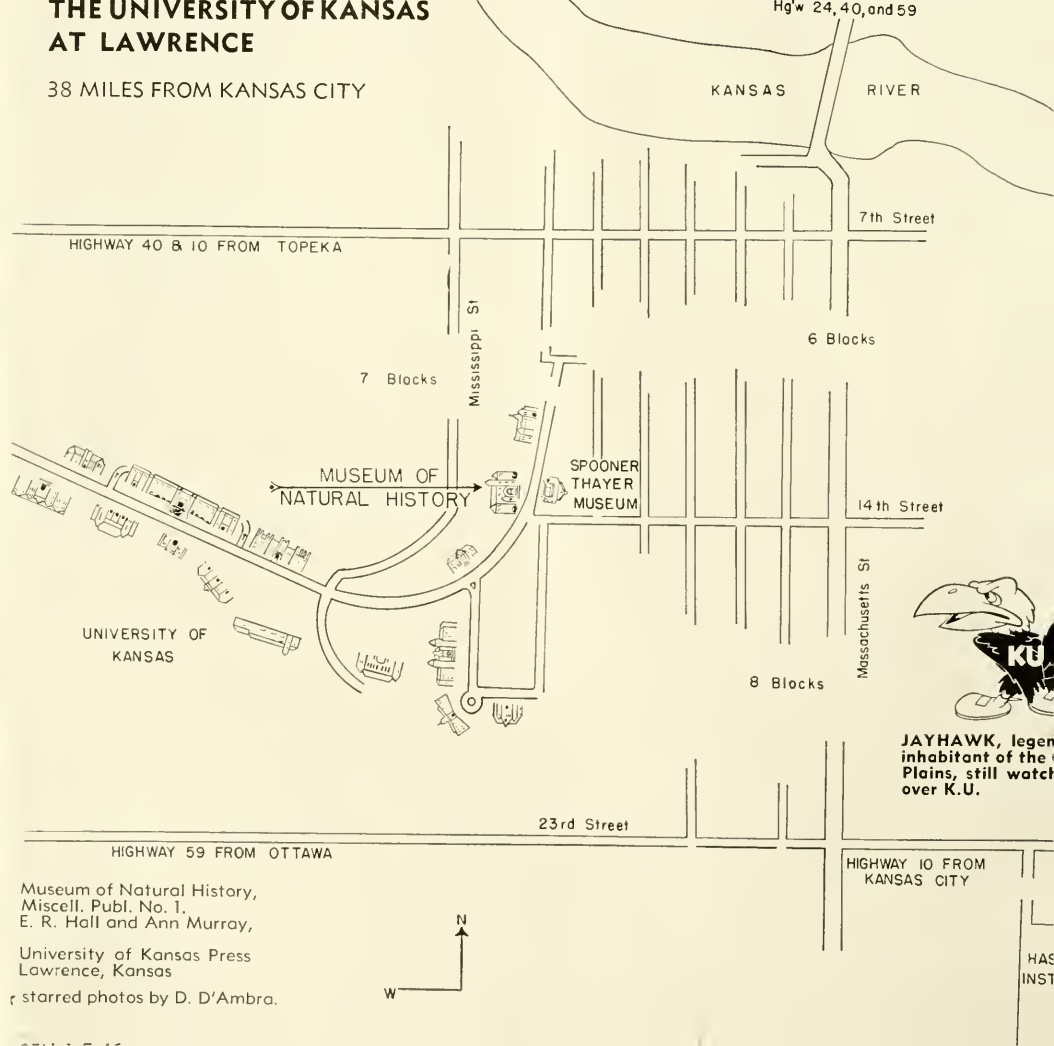
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Museum of Natural History,
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E. R. Hall and Ann Murray,
University of Kansas Press
Lawrence, Kansas
starred photos by D. D'Ambra.
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The Museum of Natural History
The University of Kansas

PANORAMA OF NORTH AMERICAN MAMMALS
[MAIN FLOOR]

Moose depicted in their native habitat are among the first animals to meet the visitor's eye as he enters the viewing space on the main floor. Passing to the right around the panorama, the outer walls of which are 550 feet in length, the visitor meets first the mammals of the Arctic regions, then those of successively more southern latitudes, and last the fauna of the southern United States near the Mexican boundary.

The moose, largest living member of the deer family, is notable for the "bell" or dewlap of skin on the throat and for the palmate antlers in males. Moose live in the forested regions of the North in the Hudsonian and Canadian life-zones all across North America and Eurasia.

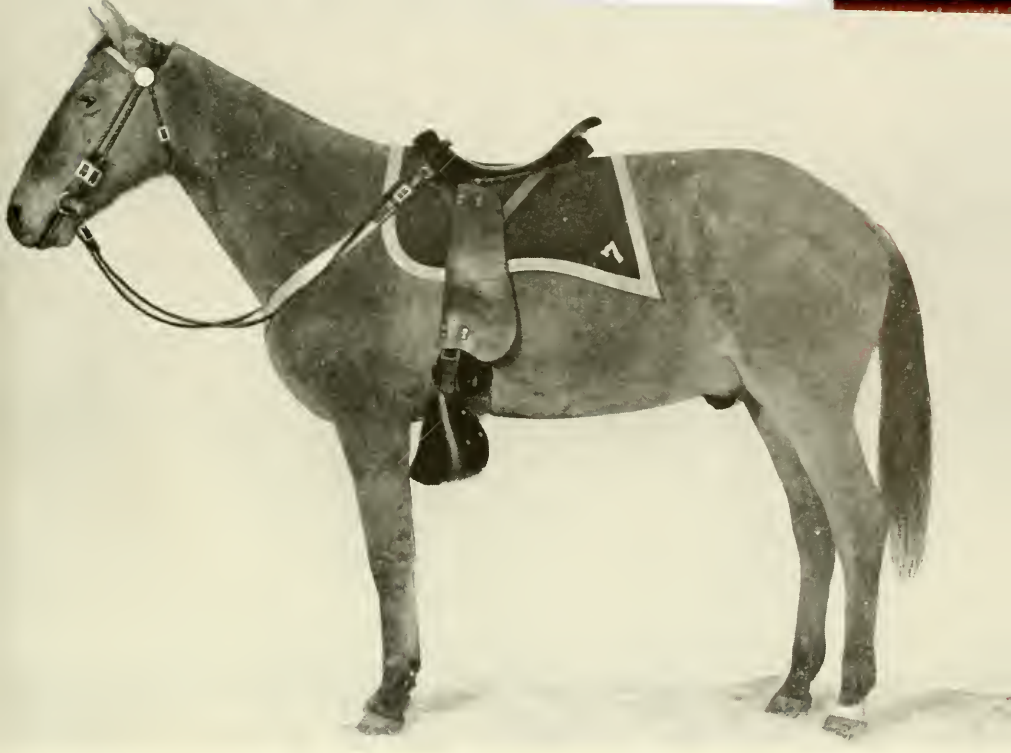
Two fighting bull moose lock antlers while beavers continue working on a dam.

The Great Plains are shown with their characteristic animal life. This section of the panorama merits careful study by persons interested in conditions of a century ago because the exhibit was made by men who saw the Great Plains before the larger kinds of animals were eliminated by the plow, fencing, and other phases of modern agriculture.

Bison by the countless thousands, along with prong-horned antelopes, once roamed the Great Plains and white-tailed deer lived in the fringes of timber along the streams. All these large animals now are gone and even the kit-fox, white-tailed jackrabbit, and prairie dog, among the smaller kinds of animals, maintain only a token population in a few places.

Billowing wheat fields in moist years and dust bowls in dry years have taken the place of the prairie sod, and cattle and sheep have replaced the mammals shown in the Great Plains section of the panorama.

Lords of the Great Plains of a century ago came to the water hole to drink.



Sole survivor of "Custer's Last Stand"—Captain Keogh's horse, Comanche.

The mounted animal in the Museum that inspires the most questions is the horse, Comanche, only survivor of the battle of the Little Big Horn on June 25, 1876. In this battle General George A. Custer and his men of the 7th Cavalry were killed by the Sioux Indians led by Chiefs Gall, Two-Moons, Crazy Horse and Rain-in-the-Face. When U.S. troops arrived on the battlefield two days later, the only living animal was Comanche, who had been ridden in battle by Captain Myles W. Keogh.

Comanche's wounds were so severe that his discoverers first intended to put him to death immediately. Instead, officers who had been friends of Captain Keogh took Comanche to the boat, "Far West," and transported him to Fort Abraham Lincoln in the Dakota Territory, where he was nursed back to health.

In 1878, at this fort, Colonel Sturgis' General Order No. 7 made the kind treatment and comfort of Comanche a responsibility of the 7th Cavalry. Comanche died on November 7, 1891, at Fort Riley, Kansas, at the age of 31 years. He was mounted by the late Professor L. L. Dyche of the University of Kansas.

In the aquarium of lower Devonian animal life the two largest fishes are extinct placoderms, notable for the bony armor on the outside of the body.

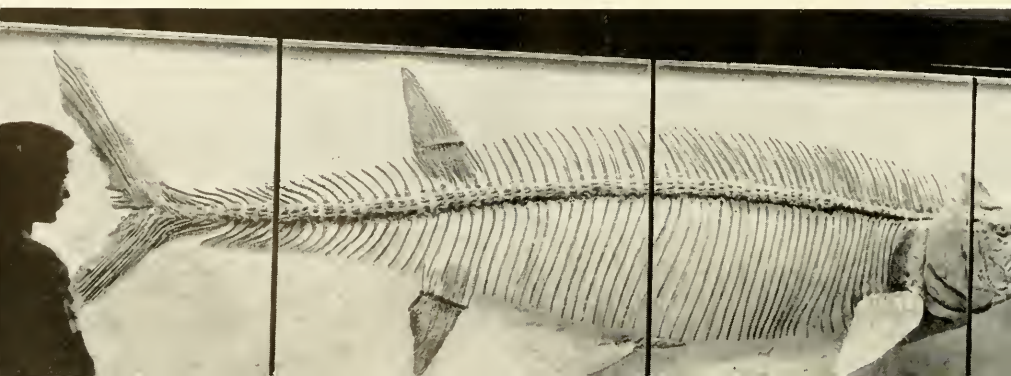
The three small specimens in the middle foreground, genus *Climatius,* unlike modern fishes, had 5 to 7 fins on each side.

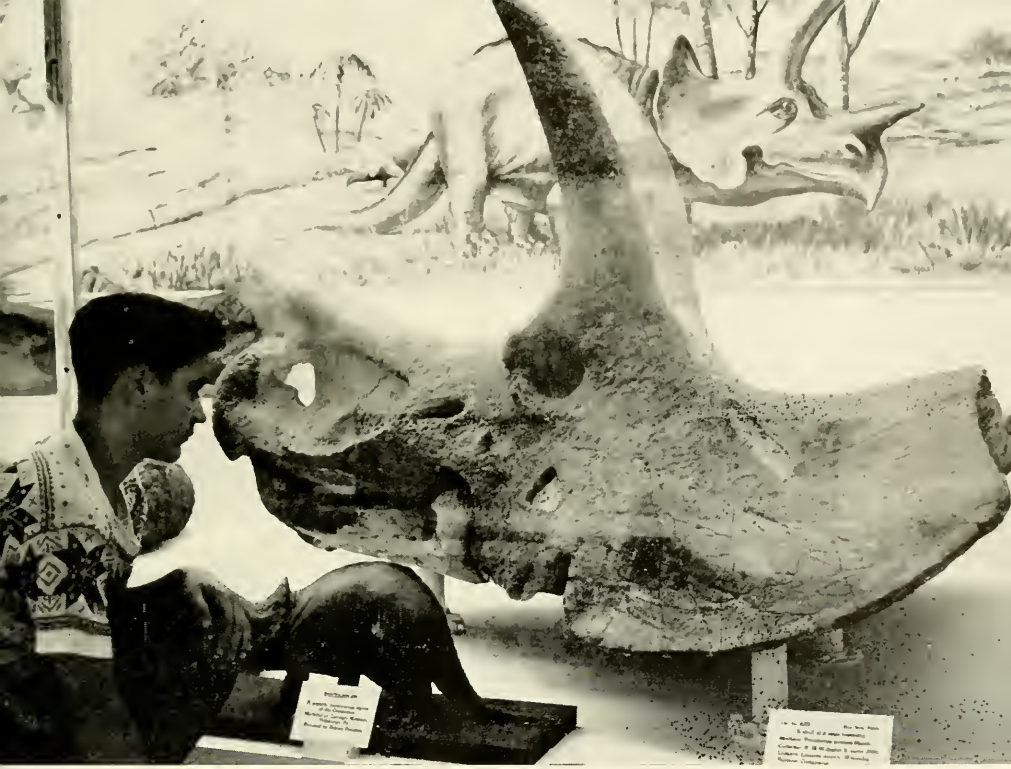
Five hundred million years ago fish like these lived in the Devonian Sea.

The extinct *Xiphractinus mollosus,* related to the modern tarpon, occurred in the Cretaceous Sea of what is now the Great Plains region. The individual shown is about fourteen feet long.

Much of the knowledge about fishes of bygone ages is derived from study of the fossilized skeletons recovered from the chalk beds, rocks and other geological deposits exposed in central and western Kansas.

Actual fossil skeleton of a fish preserved 75 million years in Kansas chalk.



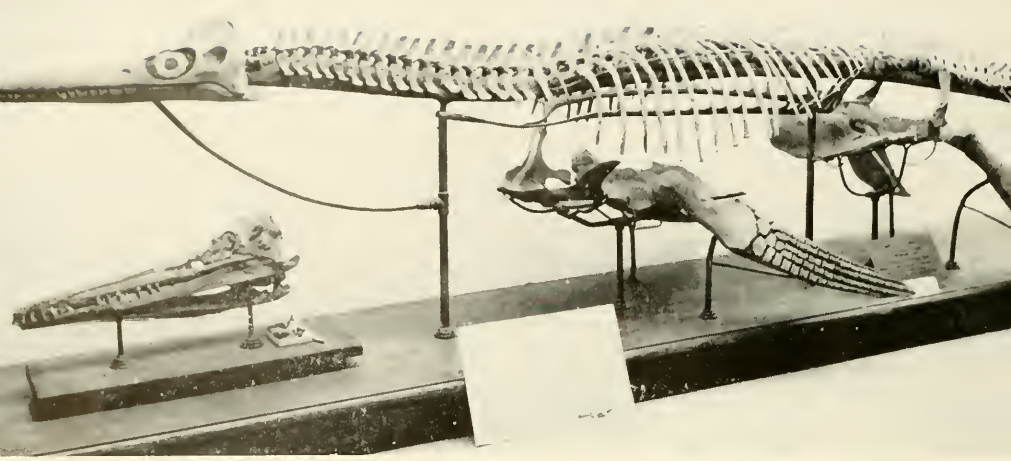


High school youth contemplates five-foot skull of ceratopsion dinosaur.

Triceratops, a browsing dinosaur, lived millions of years ago in swampy areas in what is now the Rocky Mountain region. This huge reptile weighed approximately ten tons. It was about twenty feet long, and the head with its backward-extending frill of bone made up a third of the total length. This bone and the three horns were for protection against the carnivorous dinosaur, *Tyrannosaurus rex*, which preyed on *Triceratops*.

Ceratopsian dinosaurs, of which *Triceratops* is one genus, had heads larger than those of any other land animals. Nevertheless, the brain was surprisingly small. Exactly why these giant reptiles died out is unknown, but we do know that they were succeeded by the larger-brained mammals. These mammals were small, although some eventually gave rise to the gigantic titanotheres (distant relatives of rhinoceroses), mastodons and elephants which rivaled some of the dinosaurs in size.

The canals for blood vessels on the fossilized horns suggest that these were only horn cores covered by horny material, as are the horns of modern cattle. This increased the length of the horns by several inches more than is shown in the fossil skull.



Chickens have nothing on Trinacomerum osborni. He also had a gizzard. ✶

Plesiosaurs were swimming reptiles that lived in the Jurassic and Cretaceous seas. The specimen above, *Trinacomerum osborni*, from Logan Co., Kansas, was the short-necked and short-tailed kind. Other plesiosaurs had necks three times as long, but in all plesiosaurs the body was flattened, turtlelike.

The jaws bore many sharp-pointed teeth, better adapted for grasping than for chewing the fishes that were caught. The plesiosaurs swallowed their food whole and masticated it by the aid of pebbles in a gizzard, much as do chickens.

Grammar school children learn from the hostess in the State Museum that Kansas is rich in natural history materials. Information about the local environment gained in youth fosters in adulthood the conservation and wise use of natural resources.

Pupils gaze at tusks and bones of mastodons that roamed North America. ✶

Hairy Mammoth that lived in the ice-age.

From study of fossil bones the paleontologist learns what kinds of animals lived in the past, and from their structure and the deposits in which they are found obtains information about the climatic conditions under which they lived. The fossils aid the geologist in determining the ages of these deposits. Accurately mounted skeletons permit the restoration of these extinct creatures.

Right: Skeleton of extinct Bison.

Below: Scientists identify fossil bones sent to the Museum.

Peking Man, less ancient than Java Man, is shown defending his family.

Peking Man (*Sinanthropus pekinensis*), although one of the oldest of fossil men, was not discovered until 1927. As is often the case, the discovery was an accident. Chinese collect fossil bones which they consider to have medicinal value, and some fossils accidentally came into the hands of a local scientist. He learned that the fossils had been found in a quarry near the village of Choukoutien, near Peking. Going there, he found a collapsed cave and in it discovered a manlike tooth strangely different from any previously known. Subsequent excavation revealed human bones of both sexes of varying ages—these remains are known collectively as "Peking Man."

Peking Man, while more "human" than Java man, has some very primitive features, such as the remarkably large pulp cavities in his teeth. He possessed crude stone choppers and smaller equally crude chipped tools serving as knives and scrapers. He used fire and evidently subsisted on animals and vegetable foods.

Geological studies of the cavern deposits and studies of the alternate cycles of erosion and deposition prove Peking Man to be not so ancient as Java Man.

ANTHROPOLOGY [MEZZANINE FLOOR]

A study of Eskimo tools and garments demonstrates human ingenuity—how man has adapted himself successfully to the bitter Arctic environment. This costume, consisting of a hooded coat or parka and pants made of polar-bear skin, is worn by both sexes. The boots are stuffed with moss or grass for additional insulation. Gloves and a muff complete the costume. When indoors, that is, in a tent or skin-lined igloo, all of the clothing except a brief skin undergarment is removed. White men have been unable to devise Arctic garments notably superior to the native clothing.

To the right are hide bags, necessary since the native clothing lacks pockets. Note the coiled harpoon-line with a bladder-bag attached to serve as a float. To the left are two large knives used in skinning, butchering,and for many other purposes. Such iron tools were unknown before the advent of the white man.

Eskimos must protect themselves against the Arctic cold with warm clothing.

DIORAMAS OF BIRDS [SECOND FLOOR]

The winter scene below portrays a pasture in eastern Kansas with three characteristic winter birds. The slate-colored junco and tree sparrow are winter visitants which join the black-capped chickadee, a permanent resident, to make a mixed flock typical only of winter. The chickadee leads the flock, and its notes are the sounds for which the experienced bird student listens when he seeks to locate a winter flock.

Each of the three species in this diorama is a seed eater in winter. Almost every citizen holds small birds in high regard and deplores their destruction. This is the direct result of wise education of the public persistently carried on from 1890 to 1925 by the United States Department of Agriculture and the Audubon Society of America. Of course, the belief that these birds are beneficial has some foundation in fact and it is hoped that a similar attitude will come to prevail concerning other birds, for example the hawks and falcons which are of more direct value to man than are many of the seed-eating birds.

A mixed flock of seed-eating birds forages in a Kansas pasture.

Diarama shows sharp-eyed monarch of mountain and plain, the prairie falcon.

These trimly-built birds with sharply pointed wings nest on shelves on the faces of precipitous cliffs. From the Great Plains to the Pacific and from the Dakotas to Mexico, they range out from these lofty perches to seek their food that consists mainly of small vertebrates.

Accurate knowledge of birds is obtained from carefully prepared collections of skeletons and skins. The K. U. collection of skeletons is among the largest in the world.

A curator writes museum catalog numbers on the skeleton of a large bird.

THE BIOLOGY PROFESSOR'S INVESTIGATION IN THE MUSEUM makes for superior teaching and increases the sum of knowledge when the results of his research are published in technical bulletins of the Museum.

RESEARCH AND TEACHING

each is indispensable to a university.

A UNIVERSITY CLASS IN THE MUSEUM: Here the training of yaung men and women for professional careers is facilitated by the ready availability af study specimens. These supplement the outdoor study of live animals.

RESEARCH COLLECTIONS [THIRD FLOOR]

The collections of snakes, mammals, birds and fossils which are necessary for research are many times larger than the collections on exhibit. The system of arrangement for specimens is much like that for books in a library, where every specimen has its place and whereby any one can quickly be located and used.

The specimens for research are obtained, in part, by staff members when they are on biological field work and ,in part, by farmers, business men, and other persons whose intelligent curiosity leads them to send specimens, by mail or by express, to the Museum for identification or for permanent deposit. Date and place of capture, with name of the collector, are essential data. Because many specimens of even common species are needed by the zoologists in order to determine the margins of geographic ranges and individual variation in characters, the Museum naturally welcomes such assistance in its work.

Often a visitor to the exhibit halls pleases both the scientific staff and himself by asking to be taken behind the scenes, where he and his guests can see the specimen that he sent in last summer from his trip to Alaska or Cuba, or from his farm in Kansas.

An account of a species of reptile new to science is prepared by a zoologist.

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